

AMENDMENTS TO THE CLAIMS

1-250 (Canceled)

251. (Previously Presented) A method for synthesizing one or more copies of a library of nucleic acid targets that comprises the steps of:

- a) providing:
 - (i) a library of nucleic acid targets;
 - (ii) primers or nucleic acid constructs comprising sequences complementary to homopolymeric sequences in said library of nucleic acid targets wherein said primers or nucleic acid constructs comprise one or more terminal nucleotides at their 3' ends, wherein said terminal nucleotides comprise nucleotide analogues with substitutions on the 2' position of the ribose ring;
 - (iii) synthesizing reagents for the synthesis of a nucleic acid copy; and
 - (iv) addition reagents for the addition of a non-inherent Universal Detection Target (UDT);
- b) annealing said primers or nucleic acid constructs to said homopolymeric sequences in said library of nucleic acid targets;
- c) extending the annealed primers or nucleic acid constructs using said synthesizing reagents for the synthesis of at least one nucleic acid copy of said library of nucleic acid targets; and
- d) adding a non-inherent UDT to said extended primers or said extended nucleic acid constructs.

252. (Previously Presented) The method of claim 251 wherein said library of nucleic acid targets is isolated from a biological source or said library of nucleic acids comprises complete or partial copies of nucleic acids isolated from a biological source.

253. (Previously Presented) The method of claim 252 wherein said complete or partial copies of nucleic acids are identical or complementary copies of nucleic acids isolated from said biological source.

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254. (Previously Presented) The method of claim 252, wherein said homopolymeric sequences are present in said library of nucleic acid targets prior to said isolation of said library of nucleic acid targets from said biological source.

255. (Original) The method of claim 252 wherein said homopolymeric sequences are added to said library of nucleic acid targets by an enzyme after isolation of said library of nucleic acid targets from said biological source.

256. (Original) The method of claim 254, wherein said homopolymeric sequences comprise poly A sequences.

257 (Original) The method of claim 253 wherein said homopolymeric sequences are added to said identical or complementary copies during or after preparation of said copies.

258. (Original) The method of claim 255, wherein said enzyme adding the homopolymeric sequences to the nucleic acid targets comprises poly A polymerase, Terminal Deoxynucleotidyl Transferase or a ligase.

259. (Original) The method of claim 251, wherein said nucleotide analogues comprise 2' O-methyl analogues, 2' Fluoro analogues or 2' amino analogues.

260. (Original) The method of claim 251, wherein said primers or nucleic acid constructs are chimeric and comprise nucleotides other than 2' substituted nucleotide analogues.

261. (Previously Presented) The method of claim 251 wherein said synthesizing reagents comprise E. coli DNA Pol I, Klenow fragment of E. coli DNA Pol I, Bst DNA polymerase, Bca DNA polymerase, Taq DNA polymerase, Tth DNA polymerase, T4

DNA polymerase, T7 DNA polymerase, T7 DNA polymerase with virtually no 3'→5' exonuclease activity, Φ 29 DNA polymerase, ALV reverse transcriptase, MuLV reverse transcriptase, RSV reverse transcriptase, HIV-1 reverse transcriptase, HIV-2 reverse transcriptase, reverse transcriptase capable of transcribing amounts of RNA < 50 ng, reverse transcriptase capable of transcribing amounts of RNA > 50 ng, any mutational variations of any of the preceding, or any combination of the preceding.

262. (Original) The method of claim 251 further comprising the steps of:

- a) providing additional synthesizing reagents for the synthesis of a complementary copy of said nucleic acid copy;
- b) separating said nucleic acid target from said first nucleic acid copy or degrading said nucleic acid target; and
- c) synthesizing said complementary copy.

263. (Original) The method of claim 262, wherein said complementary copy is formed by providing one or more reverse primers or reverse nucleic acid constructs complementary to sequences in said non-inherent UDT.

264. (Original) The method of claim 251, wherein said addition reagents comprise Terminal Deoxynucleotidyl Transferase or a ligase.

265. (Original) The method of claim 264, further comprising the step of adding a terminator nucleotide.

266. (Original) The method of claim 251, wherein said non-inherent UDT and a terminator nucleotide are added to said nucleic acid copy by providing Terminal Deoxynucleotidyl Transferase and a mixture of terminator and non-terminator nucleotides.

267. (Original) The method of claim 266 further comprising the steps of:

- a) providing additional synthesizing reagents for the synthesis of a complementary copy of said nucleic acid copy;
- b) separating said nucleic acid target from said first nucleic acid copy or degrading said nucleic acid target; and
- c) synthesizing said complementary copy.

268. (Original) The method of claim 265 or 266, wherein said terminator nucleotides comprise dideoxynucleotides, acyclic nucleotides, arabinosides or 3' amino nucleotides.

269. (Original) The method of claim 251, wherein said primers or said nucleic acid constructs comprise a production center.

270. (Original) The method of claim 263, wherein said reverse primers or reverse nucleic acid constructs comprise a production center.

271. (Previously Presented) The method of claim 269 or 270 wherein said production center comprises an RNA polymerase promoter sequence.

272 (Previously Presented) The method of claim 271 wherein said RNA promoter sequence comprises T3 RNA polymerase promoter, T7 RNA polymerase promoter or SP6 RNA polymerase promoter sequences.

273. (Previously Presented) The method of claim 271, further comprising the steps of:

- a) providing appropriate reagents; and
- b) carrying out a transcription reaction using said RNA polymerase promoter sequence.

274. (Previously Presented) The method of claim 271 further comprising the steps of:

- a) providing reagents for RNA transcription, said reagents comprising Mn^{++} , a mutated RNA polymerase, or a combination thereof;
- b) providing dNTPs or dNTPs and NTPs; and
- c) creating a DNA transcript or a DNA/RNA chimeric transcript.

275. (Original) The method of claim 273 wherein said transcription reaction is carried out in the presence of at least one labeled nucleotide, thereby generating labeled transcription products.

276. (Previously Presented) The method of claim 274 wherein the synthesis of said DNA transcript or DNA/RNA chimeric transcript is carried out in the presence of at least one labeled nucleotide, thereby generating labeled transcription products.

277. (Previously Presented) The method of claim 273 further comprising the step of synthesizing a nucleic acid copy in the presence of at least one labeled nucleotide while carrying out said transcription reaction, thereby generating labeled nucleic acid copy products.

278. (Previously Presented) The method of claim 275 wherein said labeled transcription products comprise a fluorescent compound, a phosphorescent compound, a chemiluminescent compound, a chelating compound, an electron dense compound, a magnetic compound, an intercalating compound, an energy transfer compound, an antibody, an antigen, a hapten, a receptor, a hormone, a ligand, an enzyme, or any combination of the preceding.

279. (Previously Presented) The method of claim 276 wherein said labeled transcription products comprise a fluorescent compound, a phosphorescent compound, a chemiluminescent compound, a chelating compound, an electron dense compound, a magnetic compound, an intercalating compound, an energy transfer compound, an

antibody, an antigen, a hapten, a receptor, a hormone, a ligand, an enzyme, or any combination of the preceding.

280. (Previously Presented) The method of claim 277 wherein said labeled nucleic acid products comprise a fluorescent compound, a phosphorescent compound, a chemiluminescent compound, a chelating compound, an electron dense compound, a magnetic compound, an intercalating compound, an energy transfer compound, an antibody, an antigen, a hapten, a receptor, a hormone, a ligand, an enzyme, or any combination of the preceding.

281. (Original) The method of claim 251 wherein said library of nucleic acid targets comprises DNA or RNA.

282. (Previously Presented) The method of claim 251 wherein said primers or nucleic acid constructs are attached to a solid matrix.

283. (Previously Presented) The method of claim 282 wherein said solid matrix comprises magnetic beads, latex beads, microtitre plates or glass slides.

284. (Previously Presented) The method of claim 251 wherein said sequences complementary to said homopolymeric sequences in said library of nucleic acid targets are comprised of T, U or any combination thereof.

285. (Original) The method of claim 251 wherein said sequence of said homopolymeric segment comprises oligo-C, oligo-G or oligo-A.

286. (Previously Presented) The method of claim 251 wherein said nucleotide analogues comprise a portion of said primer or nucleic acid construct sequences complementary to said homopolymeric sequences.

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287. (Previously Presented) The method of claim 251 wherein at least one of said bases of said nucleotide analogues is different from the bases comprising said primer or nucleic acid construct sequences complementary to said homopolymeric sequence.

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